

IN THE CLAIMS

This listing of the claims replaces all previous listings of the claims.

1. (Previously Presented) A method for the encapsulation of a nuclear material, comprising:

treating the nuclear material with an encapsulant which comprises a cementitious material; and

curing said cementitious material;

wherein said nuclear material comprises uranium metal, Magnox fuel elements, and/or fuel element debris.

2. (Canceled)

3. (Previously Presented) A method as claimed in claim 1 wherein the cementitious material comprises Portland Cement.

4. (Previously Presented) A method as claimed in claim 1 wherein the cementitious material further comprises at least one inorganic filler, the at least one inorganic filler comprising blast furnace slag, pulverised fuel ash, hydrated lime, finely divided silica, limestone flour and/or organic and inorganic fluidising agents.

5. (Previously Presented) A method as claimed in claim 1 wherein the cementitious material is provided in the form of an aqueous composition.

6. (Previously Presented) A method as claimed in claim 5 wherein the water content of the composition is about 40-50% (w/w).

7. (Previously Presented) A method as claimed in claim 1 further comprising:

placing the nuclear material in a container before treating the nuclear material and curing the cementitious material.

8. (Original) A method as claimed in claim 7 wherein elements of the nuclear material are either arrayed in the container or mixed haphazardly.

9. (Previously Presented) A method as claimed in claim 7 further comprising: capping the container after the cementitious material has at least partially cured.

10. (Previously Presented) A method as claimed in claim 7 wherein the container comprises a drum having a capacity of about 500 litres.

11. (Previously Presented) A method as claimed in claim 10 wherein an amount of nuclear material stored in the container is up to about 52 elements.

12. (Previously Presented) A method as claimed in claim 11 wherein the number of elements is about 22.

13. (Previously Presented) A method of storing a nuclear material comprising: encapsulating the nuclear material in a cured cementitious material, wherein said nuclear material comprises uranium metal, Magnox fuel elements, and/or fuel element debris.

14. (New) A method for the encapsulation of a nuclear material, comprising:
treating the nuclear material with an encapsulant which comprises a cementitious material; and
curing said cementitious material;
wherein said nuclear material comprises uranium metal fuel elements, Magnox fuel elements, and/or fuel element debris.

15. (New) A method as claimed in claim 14, wherein said nuclear material comprises a fuel element.

16. (New) A method as claimed in claim 14, wherein said nuclear material is treated with the encapsulant without reprocessing of the nuclear material.

17. (New) A method as claimed in claim 13, wherein said nuclear material comprises uranium metal fuel elements, Magnox fuel elements, and/or fuel element debris.

18. (New) A method as claimed in claim 13, wherein said nuclear material comprises a fuel element.